

Notice of Allowability

Application No.

10/787,369

Examiner

Alexander Sofocleous

Applicant(s)

JEON ET AL.

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed February 16, 2006.
2. ☒ The allowed claim(s) is/are 1-23.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 3/10/2006
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. This action is responsive to the following communication: the Amendment filed February 17, 2006.
2. Claims 1-23 are pending in the case. Claims 1, 3, 7, 10, 11, 17, and 21 are currently amended. Claims 1, 7, 18, and 21 are independent claims.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
4. With respect to original specification filed on February 26, 2004 amend the following (under the "Summary of the Invention"):
 - Page 3, line 9, change "parity bit region" to --lock bit region--.
 - Page 3, line 17, change "parity bit region" to --lock bit region--.
 - Page 4, line 2, change "parity bit region" to --lock bit region--.
 - Page 4, line 4, change "parity bit region" to --lock bit region--.
 - Page 5, line 6, change "parity bit region" to --lock bit region--.
 - Page 5, line 9, change "parity bit" to --lock bit--.
 - Page 5, line 11, change "parity bit region" to --lock bit region--.
 - Page 5, line 16, change "parity bit region" to --lock bit region--.

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5. With respect to original specification filed on February 26, 2004, replace section entitled "Detailed Description Of The Preferred Embodiments" with the substitute specification received on March 10, 2006.

Specification

6. The substitute specification was not received in Amendment filed February 17, 2006. Examiner contacted Attorney DeRosa March 10, 2006 to request resubmission of substitute specification. Receipt of the substitute specification faxed on March 10, 2006 is acknowledged.

It is noted that the substitute specification submitted March 10, 2006 is not the entire specification; instead, it is a replacement for the "Detailed Description Of The Preferred Embodiments" section. Remaining deficiencies in the "Summary of the Invention" sections of the originally submitted specification (filed February 26, 2004) have been addressed in Examiner's Amendment above.

Drawings

7. The proposed drawing corrections (Fig. 1-6) received on February 17, 2006 are approved by Examiner. However, the proposed drawing corrections submitted did not indicate in the top margin of each sheet, "Replacement Sheet," pursuant to 37 CFR 1.121(d); and, a non-compliance action was mailed out to Applicant on March 14, 2006.

During a telephone conversation with Attorney Frank DeRosa on March 16, 2006, it was agreed that Applicant would resubmit the proposed drawing corrections via

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fax and indicate on the top margin of each sheet, "Replacement Sheet." The new proposed drawing corrections, indicating "Replacement Sheet" on the top margin of each sheet, were received on March 17, 2006 and are approved by Examiner.

Claims

8. The proposed claims corrections (claims 1, 3, 7, 10, 11, 17, and 21) received on February 17, 2006 are approved by Examiner.

Response to Arguments

9. Applicant's arguments, see page 9 (lines 5-6, 8-12, 12-14 and 16-22), filed February 17, 2006, with respect to the rejection of claims 1-6 and claims 18-20 have been fully considered and are persuasive. The rejection of claims 1-6 and claims 18-20 has been withdrawn.

Allowable Subject Matter

10. **Claims 1-23 are allowed.**

11. The following is an examiner's statement of reasons for allowance:

With respect to independent claim 1, there is no teaching or suggestion in prior art to activating the sense amplifier when the decoding signal (first decoding signal) to access the one-time programming region is generated.

With respect to independent claim 7, there is no teaching or suggestion in prior art to accessing a lock bit region in response to a first decoding signal where the sense amplifier compares the data output from the lock bit region to generate a first comparison detecting signal, and comparing the data of the one-time programming region to generate a second comparison detecting signal, and then generating a write driver enable signal in response to the first and second detecting signals.

With respect to independent claim 18, there is no teaching or suggestion in prior art to comparing the data from the one-time programming region to generate a comparison detecting signal when the one-time programming region is accessed

With respect to independent claim 21, there is no teaching or suggestion in prior art to comparing the data read from a lock bit region to generate a first comparison detecting signal, and comparing the data of the one-time programming region to generate a second comparison detecting signal when the first comparison detecting signal is generated, stopping the write operation when the first or second comparison detecting signal is not activated, and writing data in the one-time programming region when the one-time programming region and the lock bit region are not accessed or the second comparison detecting signal is activated.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ogura et al. (U.S. Patent 5,991,197), Ferrant (U.S. Patent 6,421,799), Kawamata (U.S. Patent 6,711,055), Kim (U.S. Patent Application 200/50268086), and Byeon et al. (U.S. Patent 6,975,547).

Ogura et al. show memory blocks with lock bit. These blocks can be one-time programmable dependant on the value of the lock bit; i.e., the lock bit is the determining factor as to whether or not a block, or region, is one-time programmable. Ogura et al. do not disclose reading the data stored in the one-time programmable, or OTP, region to determine whether or not a write driver enable signal is enabled.

Ferrant shows a ROM array with connected OTP regions. Ferrant does not disclose enabling sense amplifiers based off of an address, or decode, signal for the OTP.

Kawamata shows banks of memory with one bank having an OTP region. Kawamata does not disclose enabling sense amplifiers based off an address, or decode, signal for the OTP.

Kim shows a NAND flash memory with OTP block. The OTP region and a register are loaded with dummy data and then compared. This reference was filed after instant application.

Byeon et al. show memory with locked and unlocked areas. This reference was filed after instant application.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Sofocleous whose telephone number is 571-272-0635. The examiner can normally be reached on M-F 7:00am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGS


Tuan T. Nguyen

3/16/08

Replacement Sheet

APPROVED
AGS 3/17/2006

FIG. 1

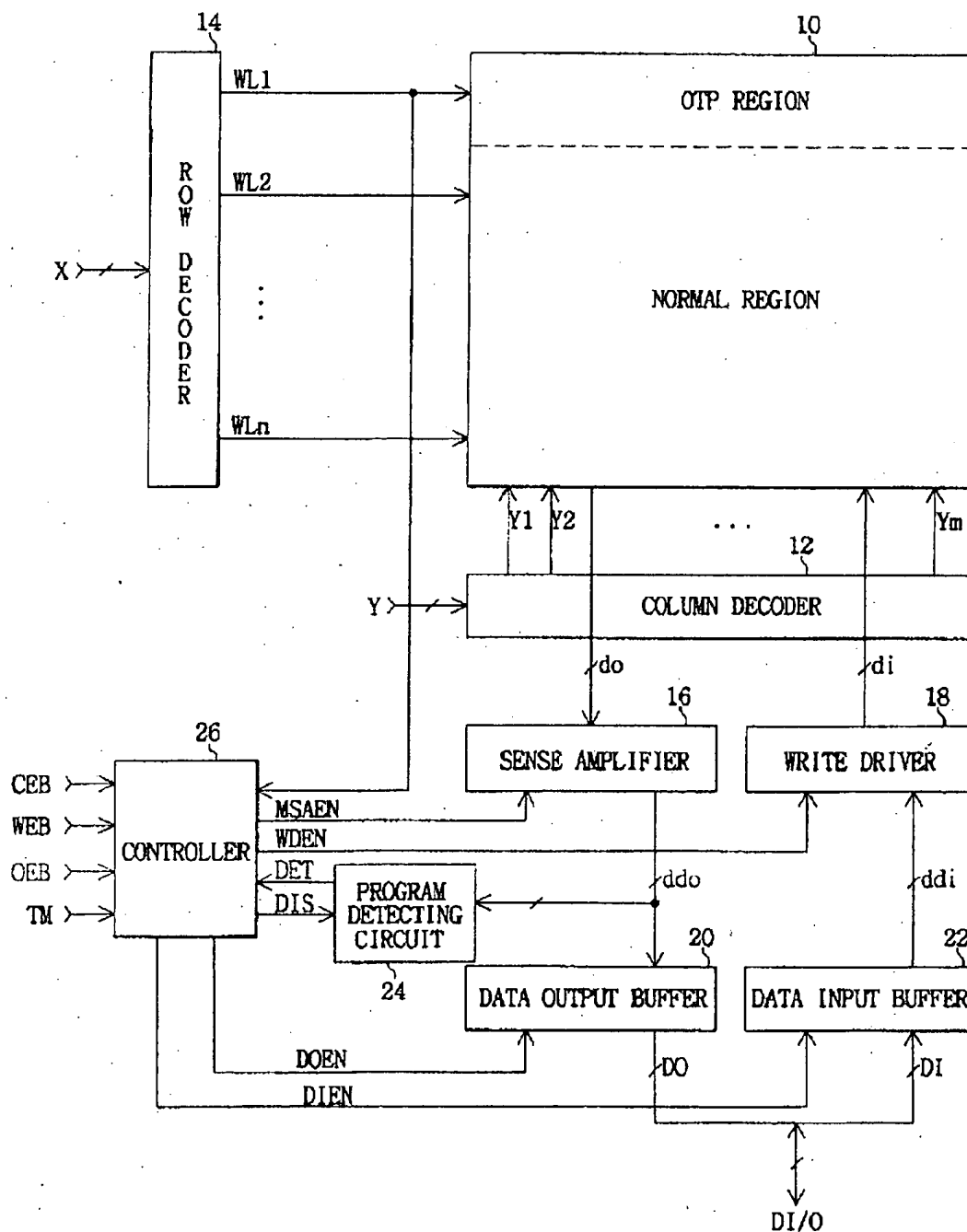




FIG. 1

APPROVED
AGS 3/9/2006

